Grade 7 Mathematics Sample Performance Task Student Worksheet

You are a volunteer at International Food Assistance. This organization delivers "food baskets" to help people around the world. The requirements for each food basket are shown below.

Here are the requirements for each food basket:

- Contains grains such as rice, wheat, or oatmeal
- Contains legumes such as kidney beans, nuts, or lentils
- Contains exactly 35 grams (g) of oil for cooking
- Contains exactly 50 grams (g) of Super Cereal
- Has a minimum of 2100 total calories
- At least 8% of the total calories come from protein
- At least 10% of the total calories come from fat
- The cost of each basket cannot exceed $0.75

Here are the contents and quantities of a **Sample Food Basket:**

Food	Quantity	Calories	Protein (1 g = 4 calories)	Fat (1 g = 9 calories)	Cost per kilogram
Rice	800 g	920	9 g	2 g	$0.58
Lentils	240 g	812	34 g	2 g	$0.90
Oil	35 g	315	0 g	35 g	$1.20
Super Cereal	50 g	200	10 g	5 g	$0.12

This assessment has four questions about planning food baskets. You will examine factors such as nutrition and food prices. The final question requires you to design a food basket using the interactive simulation table. Read and answer each question.

Nutritional Value and Cost of Wheat and Oatmeal

Grain (Oatmeal ▾)

Quantity (g) (1000 ▾)

Start

🗑 Clear All Rows

Grain	Quantity (g)	Calories	Protein (g) (1 g = 4 calories)	Fat (g) (1 g = 9 calories)	Cost per kilogram	
Oatmeal	100	67	1	2	$1.02	🗑
Oatmeal	200	133	2	4	$1.02	🗑
Oatmeal	300	200	3	6	$1.02	🗑
Oatmeal	400	267	4	8	$1.02	🗑
Oatmeal	500	333	5	10	$1.02	🗑
Oatmeal	600	400	6	12	$1.02	🗑
Oatmeal	700	467	7	14	$1.02	🗑
Oatmeal	800	533	8	16	$1.02	🗑
Oatmeal	900	600	9	18	$1.02	🗑
Oatmeal	1000	667	10	20	$1.02	🗑

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Nutritional Value and Cost of Wheat and Oatmeal

Grain [Wheat ▾]

Quantity (g) [1000 ▾]

[Start]

🗑 Clear All Rows

Grain	Quantity (g)	Calories	Protein (g) (1 g = 4 calories)	Fat (g) (1 g = 9 calories)	Cost per kilogram	
Wheat	100	340	14	3	$0.75	🗑
Wheat	200	680	28	6	$0.75	🗑
Wheat	300	1020	42	9	$0.75	🗑
Wheat	400	1360	56	12	$0.75	🗑
Wheat	500	1700	70	15	$0.75	🗑
Wheat	600	2040	84	18	$0.75	🗑
Wheat	700	2380	98	21	$0.75	🗑
Wheat	800	2720	112	24	$0.75	🗑
Wheat	900	3060	126	27	$0.75	🗑
Wheat	1000	3400	140	30	$0.75	🗑

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1. Create an expression to calculate the number of calories from fat in the **Sample Food Basket.**

←	→	↶	↷	⌫

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2. Create an expression to calculate the percent of total calories from protein in the **Sample Food Basket**.

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7	8	9	□/□	□□	( )	| |	π
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3. Explain how the **Sample Food Basket** does or does not meet all of the requirements for a food basket.

Type your answer in the space provided. Use specific numbers in your explanation.

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4. Bad weather is damaging rice crops, so you need to use wheat **or** oatmeal as the grain requirement in the food baskets. Enter different quantities in the table **Nutritional Value and Cost of Wheat and Oatmeal** to explore the changes in calories, protein, fat, and cost of replacing rice with wheat or oatmeal.

Using your information from exploring in the table **Nutritional Value and Cost of Wheat and Oatmeal**, you need to make a new food basket.

Part A
Determine the contents of a new basket that uses wheat **or** oatmeal instead of rice and meets all of the requirements. Enter your information in all six blank cells in the table.

Food	Quantity	Calories	Protein (1 g = 4 calories)	Fat (1 g = 9 calories)	Cost per kilogram
Lentils	240 g	812	34 g	2 g	$0.90
Oil	35 g	315	0 g	35 g	$1.20
Super Cereal	50 g	200	10 g	5 g	$0.12

Part B
Explain how your new basket meets all of the requirements for a food basket.

Type your answer in the space provided.

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